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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,384

07/20/2005

Knut Ingvar Asen

2005-0619A

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EXAMINER

GREENE, JASON M

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

01/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,384	Applicant(s) ASEN ET AL.	
	Examiner Jason M. Greene	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5-8, 10, 12-15, 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 4, 9, 11 and 16-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/15/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claims

1. With regard to claim 2, the Examiner suggests Applicants rewrite the phrase "the reaction process stream" in line 3 as "a reaction process stream" to provide improved antecedent basis.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 9, 11 and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Specifically, it is unclear if the produced electricity is required to be used in the electrolysis cell or not.

Claims 9 and 16-18 recite the limitation "substantially all parts of CO₂ evolved is recovered and deposited". However it is unclear what is meant by the term "deposited" since the CO₂ remains in a gaseous state.

Claim 11 recites the phrase "thermal energy in streams is recovered by vaporization", but it is unclear which streams the term "streams" is referring to. It is also noted that claim 1, from which claim 11 depends, does not recite the term "streams".

Allowable Subject Matter

4. Claims 1-3, 5-8, 10, 12-15, 19 and 20 are allowed.
5. Claims 4, 9, 11 and 16-18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
6. The following is a statement of reasons for the indication of allowable subject matter:

International Patent Application Publication WO 02/066709 A1 discloses a method for operating one or more electrolysis cells for production of aluminum, the cell comprising inert or substantially inert anodes (1), wherein an oxygen containing gas

evolved by the electrolysis process in the cell is gathered and removed therefrom (exhaust system 16) in Figs. 1 and 2 and page 11, line 15 to page 13, line 14.

Duruz (US 4,681,671) discloses a method for operating one or more electrolysis cells for production of aluminum, the cell comprising inert or substantially inert anodes (2), wherein an oxygen containing gas evolved by the electrolysis process in the cell is gathered and removed therefrom (outlet 5) in Fig. 2 and col. 5, line 55 to col. 6, line 34.

Asen (US 6,298,664 B1) broadly teaches an oxygen containing gas (14) being introduced into a combustion chamber (4) where it is reacted with a carbon containing gas (fuel) in a combustion process in Fig. 1 and col. 5, line 64 to col. 6, line 18.

The prior art made of record teaches venting the produced oxygen to atmosphere and does not teach or fairly suggest the method of claim 1 wherein the oxygen removed from the electrolysis cell is introduced into a combustion chamber where it is reacted with a carbon containing gas in a combustion process.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Rapp, Zachar, Krass, Dawless et al., De Nora et al. and Sharma references disclose similar methods.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571)

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Art Unit: 1797

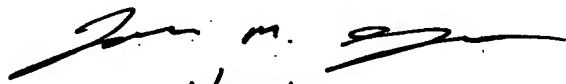
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272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene
Primary Examiner
Art Unit 1797


1/20/08

jmg
January 20, 2008